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## Abstract

A method for monitoring the health of a system comprises performing at each of a plurality of times the steps of:

constructing a condition signature from a plurality of condition indicators including (a) a plurality of vibration measurements acquired from the system or (b) one or more vibration measurements and one or more performance parameter measurements acquired from the system;

predicting a normal signature from a model defining one or more inter-dependencies between said condition indicators, the normal signature corresponding to the condition signature for a healthy system;

comparing the condition signature with the normal signature; and

registering an event if the condition signature differs from the normal signature by more than a predetermined threshold.